

Surrebuttal Report of Dr. Lisa Handley

This surrebuttal report addresses Sections I and II of Dr. Jeffrey Zax's third expert report ("Rebuttal and Surrebuttal to 'Supplemental and Rebuttal Report of Dr. Lisa Handley'").¹

Dr. Zax criticizes the BISG estimates of voter turnout by race that I used to conduct the racial bloc voting analysis of the 2017 election on two grounds:² (1) his belief that I relied on the 2000 census surname list rather than the more recent 2010 census surname list to produce BISG estimates for this election analysis, and (2) his belief that BISG probability estimates that fall outside the range of zero to one indicate a methodological error. However, I did use the 2010 list to produce BISG estimates for my analysis of the November 2017 election, although I had used the 2000 list for analysis of earlier elections. In addition, the BISG probability estimates of less than zero and greater than one are perfectly legitimate, as I explain below.

To demonstrate the irrelevance of Dr. Zax's criticisms, I have produced updated BISG voter turnout estimates based on two changes from my original BISG procedures. First, I have used the 2010 census surname list for all elections for which I had already produced BISG estimates (2013-2017). Second, I have modified the data preparation procedures slightly to ensure that all BISG probability estimates fall within the range of zero to one. Using these updated BISG estimates of voter turnout by race, I re-analyzed all of the elections for which I have BISG data. As can be seen by comparing the original and updated estimates of voting

¹ I have not addressed Sections III-V of Dr. Zax's rebuttal and surrebuttal report as I understand these sections of his third report are not to be included in the record. I have not received a copy of Dr. Zax's fourth report, which I also understand will not be included in the record.

² As explained in my initial report, the Bayesian Improved Surname and Geocoding Method (BISG) involves making a probability assignment of race/ethnicity for each person on the voters list based on his/her surname and then updating this probability using the demographic characteristics of the census block group associated with his/her address. A Bayesian algorithm is then applied to produce an integrated probability (combining the probabilities based on surname and census geography) that predicts the likelihood of that person being of a specific race/ethnicity. The probabilities for all individuals on the list residing in a specific election precinct are then summed to produce estimated turnout by race/ethnicity for the voters in that precinct.

patterns by race (see Appendix), addressing Dr. Zax's criticisms produces virtually no difference in the percentages of black and white voters who supported each of the candidates in any of the election contests examined. My original conclusion that voting in recent Eastpointe elections is racially polarized remains unaltered. Voting in recent Eastpointe elections that included African-American candidates was consistently racially polarized, with black and white voters consistently supporting different candidates. Black voters are cohesive in support of their candidates of choice, and whites usually bloc vote against these candidates. The level of racial polarization found in Eastpointe rises to the level of legal significance because black-preferred candidates are usually defeated.

I. Use of 2000 census surname list

My analysis of the 2017 election relied on the 2010 census surname list to produce BISG estimates. However, because the 2010 census surname list was not available when I began my work on this case in July 2016, I relied on the 2000 census surname list to produce BISG estimates for the earlier elections I examined (2013-2016).³

When I compared the probability estimates for the surnames of voters in Eastpointe using the 2000 and 2010 census surname lists, I found that the 2010 surname list included slightly lower probabilities that Eastpointe voters were either black or white than the 2000 surname list and higher probabilities for other racial or ethnic groups.⁴ When I used the 2010 surname probabilities to produce BISG turnout estimates and then re-analyzed voting patterns, the difference between the 2000 and 2010 surname lists made virtually no difference. The estimates of the percentage of black and white voters supporting recent candidates in Eastpointe elections is nearly identical when the BISG estimates produced using the 2000

³ According to the census website, the 2010 census surname list was released on December 15, 2016. <https://www.census.gov/newsroom/press-releases/2016/cb16-tps154.html>. The Consumer Financial Protection Bureau continued to rely on the 2000 surname list through March 2017. <https://github.com/cfpb/proxy-methodology>.

⁴ Dr. Zax did not look at the surnames of voters for Eastpointe; he looked only at the national list of all surnames and specifically at the five most common surnames nationwide.

census surname list are compared to those produced using the 2010 census surname list. (See Appendix.)

II. BISG estimates less than zero or greater than one

There are two potential reasons for BISG probability estimates to fall outside the zero to one range, both perfectly unsurprising and legitimate. One reason is that the race and ethnicity estimation percentages reported by the Census Bureau for some surnames do not always equal exactly 100. The second reason is that the geographic component of the BISG equation included census block groups for which the American Community Survey (ACS) estimate of total citizen voting age population (CVAP) is either more or less than the sum of the individual ACS CVAP estimates for individual racial and ethnic categories.

Reported surname percentages not equal to 100 When the surname race and ethnicity percentages do not equal 100, it is usually because of rounding – the Census Bureau reports percentages truncated at two decimal points. Totaling the percentages can produce values slightly above 100 (100.01 or 100.02) or slightly below 100 (99.99 or 99.98). Another common reason for percentage totals less than 100 is that the Census Bureau does not report surname percentages for a particular race or ethnicity when less than five census respondents of that race or ethnicity have a specific surname. This suppression of surname data from public reports is necessary for the Census Bureau to comply with its legal obligation to protect information that could reveal the identity or personal data of individuals. The documentation accompanying the 2000 surname file notes that “resulting percentages may, therefore, not sum to 100.”⁵

One final reason for the surname percentages not totaling exactly 100 is that the percentages associated with the surnames that did not appear on the census surname list

⁵ David Word, Charles Coleman, Robert Nunziata, and Robert Kominski, “Demographic aspects of surnames from Census 2000,” 2008 at <https://www2.census.gov/topics/genealogy/2000surnames/surnames.pdf>)

totaled more than 100.⁶ The percentages associated with surnames not included on the 2000 census surname list are: 70.5 percent white, 11.1 percent Hispanic, 11.3 percent black, 7.0 percent Asian/Pacific Islander, .9 percent American Indian/Alaska Native, and .8 percent multiracial.⁷ These categories sum to 101.6 rather than 100.

I originally dealt with suppression of probabilities associated with particular racial or ethnic groups in the census surname lists (again, due to less than five census respondents of a race or ethnicity having that surname) by including the handful of individuals with suppressed percentages among those who are not white, black, or Hispanic. I did this by subtracting the white, black and Hispanic surname probabilities from 100 to produce an “other” category.

Reported component populations not equal to reported total population The ACS estimates of census block group populations include a number of census block groups in Eastpointe in which the estimated total citizen voting age population (CVAP) is either more or less than the sum of each of the component racial and ethnic group citizen voting age populations (white, black, Hispanic, Asian, Pacific Islander, American Indian/Alaska Native, and multi-race).

Using the same method I employed to calculate a surname probability for “other,” I originally calculated the “other” CVAP by subtracting white, black, and Hispanic CVAP from total CVAP for each census block group. While this resolved the issue of component groups totaling less than the reported total CVAP by assigning any difference in the two totals to the “other” category, it resulted in negative values for “other” CVAP in the three census block groups in which white CVAP, black CVAP, and Hispanic CVAP summed together exceeded the total CVAP for the census block group.

⁶ The Census Bureau does not report any probabilities for surnames identified with fewer than 100 census respondents, to protect individual privacy.

⁷ Marc Elliott, Peter Morrison, Allen Fremont, Daniel McCaffrey, Philip Pantoja, and Nicole Lurie, “Using the Census Bureau’s surname list to improve estimates of race/ethnicity and associated disparities,” *Health Services and Outcomes Research Methodology*, Vol. 9, No. 2, 2009, 69-83, pp 73-74.

Every voter Dr. Zax identifies as having probability estimate of less than zero or greater than one in the 2017 general election resided in one of the three census block groups in which the sum of the white, black and Hispanic CVAP estimates from the ACS slightly exceeded the total ACS estimated CVAP for the census block group.⁸ The ACS 2011-2015 citizen voting age population estimates for these three census block groups are as follows:

<i>Eastpointe Census Block Group</i>	<i>Total CVAP</i>	<i>White CVAP</i>	<i>Black CVAP</i>	<i>Hispanic CVAP</i>	<i>Total CVAP minus White, Black and Hispanic CVAP</i>
Macomb County, tract 2588, block group 3	635	160	480	0	-5
Macomb County, tract 2584, block group 1	1130	625	470	40	-5
Macomb County, tract 2583, block group 1	790	510	274	10	-4

The consequence of these negative estimates was that voters who resided in these census block groups had BISG probabilities for “other” of less than zero, and a very small number of these voters also had white and black BISG probabilities of slightly more than one.

III. Updated BISG estimates

For this report, I have recalculated all BISG voter turnout estimates using the 2010 census surname list. In addition, I have slightly modified the data preparation methodology I employed to ensure there are no BISG probability estimates that are less than zero or greater than one.⁹

⁸ The four voters that Dr. Zax included as having probability estimates less than zero that did not reside in one of these three census block groups actually had “other” probability estimates that should have been reported as zero. Because of truncation, the reported figures missed zero by less than .0000000000000001. This difference is inconsequential.

⁹ In addition, the programming error in the data preparation phase of assembling the 2015 special election in Eastpointe was corrected. This data preparation programming mistake introduced a small amount of error into the BISG estimates, producing some mathematically impossible estimates for

In order to ensure that all surname percentages added up to exactly 100 percent, I carried out a proportional fitting procedure. After summing the probabilities for Asian/Pacific Islanders, American Indian/Alaska Native and multi-race to produce an “other” category, the four resulting categories (white, black, Hispanic and other), were summed and the four individual categories were then divided by this total.

When calculating the geographic component of the BISG estimates, rather than simply subtract the sum of the white CVAP, black CVAP and Hispanic CVAP from the total CVAP for each census block group to produce “other” CVAP as I did previously, I summed up all of the component CVAPs other than white, black and Hispanic to produce a value for “other” CVAP.¹⁰

This approach ensured that the surname probabilities all added to exactly one, and that none of the geographic component probabilities were greater than one or less than zero. As a result, none of the BISG probability estimates produced fell outside the zero to one range and all totaled exactly one when the white, black, Hispanic and other probabilities for each voter were totaled.

IV. Results of analysis using updated BISG estimates

Using the updated BISG estimates, I re-analyzed all of the elections for which I have BISG data. The estimates produced are substantively identical to the estimates produced using the 2000 census surname list and the unmodified probability calculations. The slight differences found merely indicate that voting is slightly more polarized than estimated in my initial report. The estimates based on the updated BISG data are listed in Tables 1-3, below. A comparison of these estimates to the estimates in my initial and rebuttal reports can be found in the Appendix.

Hispanics but ultimately having little impact on the estimates of black and white voter turnout produced by BISG.

¹⁰ The CVAP estimates by race/ethnicity reported for each census block group are as follows: total, not Hispanic or Latino, Hispanic or Latino, American Indian or Alaska Native alone, Asian alone, Black alone, Native Hawaiian or other Pacific Islander alone, White alone, American Indian or Alaska Native and White, Asian and White, Black and White, American Indian or Alaska Native and Black, and remainder of two or more race responses.

Tables 1a, b, and c provide estimates of the percentage of blacks and whites voting for the candidates running in Eastpointe city council elections that included African-American candidates based on updated BISG data. All four of these contests are racially polarized: the two city council contests in 2017 (Table 1a), the November 2015 city council contest (Table 1b), and the February 2015 special election (Table 1c). The estimates produced using the original and updated BISG data are nearly identical and the conclusion that voting is polarized is true whether the original or updated BISG estimates are used to conduct the statistical analysis.

Tables 2a, b, c, and d provide estimates of the percentage of blacks and whites voting for each of the candidates in exogenous elections that included African-American candidates using the updated BISG data. One of these four contests (Table 2c) was uncontested – three candidates competed for three seats hence all three had to win – though the first choice of white and black voters differed. The other three contests were racially polarized: the primary (Table 2b) and general elections (Table 2a) for Circuit Court Judge of the 16th district, and the 2014 general election for the Michigan Supreme Court. These estimates are nearly identical to the estimates produced using the original BISG data and the conclusion that voting is polarized is true regardless of whether the original or updated BISG data are used in the statistical analysis.

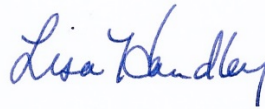
Only the elections that did not include African-American candidates – those found in Tables 3a and b – were not racially polarized. The estimates are nearly identical and the results are the same regardless of whether the original or updated BISG data is used. In the 2015 general election for mayor of Eastpointe (Table 3a), black and white voters supported the same candidate. In the November 2013 city council election, the first choice of black voters was Richardson and the second was Sweeney. The first choice of white voters was Sweeney, and the second choice was either Richardson or Massu, depending on the statistical method used (ER or EI) to produce the estimates.

V. Conclusion

In summary, voting in all recent Eastpointe elections analyzed using the original and the updated BISG data was racially polarized if the contest included an African-American candidate. Despite Dr. Zax's attempt to focus attention on inconsequential matters, the evidence indicates that recent elections in Eastpointe are clearly racially polarized. Black-preferred candidates running in the at-large system are defeated by white bloc voting. My conclusions reached in my earlier reports remain unchanged.

I declare under penalty of perjury, that the foregoing is true and correct.

Executed this 2nd day of April, 2018.

A handwritten signature in blue ink that reads "Lisa Handley". The signature is written in a cursive, flowing style.

Lisa Handley, PhD

Table 1: City Council Elections that include African-American candidates**Table 1a: 2017 City Council General Election, Contests for Partial-term and Full-term Seats**

2017 City Council Elections	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Election for partial term seat (vote for 1)						
Klinefelt	W	65.0	14.6	22.5	77.3	74.2
Gladney	B	35.0	79.9	76.1	19.3	20.3
Election for two full term seats (vote for 2)						
DeMonaco, Jr.	W	30.0	5.3	8.2	67.0	67.2
Duren	B	9.9	-.9	1.3	21.9	23.0
Williams	B	19.1	34.0	30.3	34.3	36.9
Owens	B	23.1	76.6	84.3	29.8	27.2
Johnson	B	17.9	80.2	72.4	16.1	18.7

Table 1b: 2015 City Council General Election

November 2015 General Election City Council (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Williams	B	20.5	88.3	80.0	19.1	18.7
Marion	W	31.8	25.0	33.2	56.9	54.7
Lucido	W	47.7	70.2	66.7	76.6	77.3

Table 1c: 2015 City Council Special Election

February 2015 Special Election City Council (vote for 1)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
DeMonaco, Jr.	W	60.2	-7.8	6.7	80.6	78.7
Owens	B	28.5	111.9	95.3	3.0	7.9
Pinkston	B	11.3	-4.1	1.8	16.4	11.5

Table 2: Exogenous Elections that include African-American candidates**Table 2a: 2016 General Election, Circuit Court Judge, 16th District**

November 2016 General Election Macomb County Circuit Court Judge 16 th District (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe Only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Dennings	B	30.7	52.7	48.4	28.3	27.9
Velardo	W	9.8	11.3	11.5	11.4	11.5
Servitto	W	33.1	21.7	22.4	44.7	44.7
Rancilio	W	26.4	31.4	37.4	31.0	29.9

Table 2b: 2016 August Primary Election, Circuit Court Judge, 16th District

August 2016 Primary Election Macomb County Circuit Court Judge 16 th District (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe Only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Dennings	B	21.6	48.3	34.2	21.1	16.3
Velardo	W	8.4	9.6	10.5	12.1	8.4
deBaptiste-Follis	W	8.1	24.9	19.0	5.5	4.0
Servitto	W	36.2	22.6	18.3	58.0	40.1
Rancilio	W	25.8	37.9	30.1	33.8	25.5

Table 2c: 2014 General Election, East Detroit School Board

November 2014 General Election School Board (vote for 3)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe Only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Jackson	M	31.3	39.0	36.5	43.9	43.8
DeVita	W	35.2	31.9	31.2	53.6	53.7
Borsa	W	33.5	27.1	27.6	51.6	51.7

Table 2d: 2014 General Election, Michigan Supreme Court, Partial-term

November 2014 General Election Michigan Supreme Court-Partial term (vote for 1)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Viviano	W	59.3	14.3	24.8	75.6	71.5
Thomas	B	32.4	76.4	61.9	16.9	18.0
Morgan	W	8.3	9.3	19.3	7.5	8.6

Table 3: City Council Elections that did not include African-American candidates**Table 3a: 2015 General Election, Mayor**

November 2015 General Election Mayor (vote for 1)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Massu	W	23.5	16.1	7.1	23.3	27.9
LaForest	W	31.4	18.0	18.4	35.8	32.6
Pixley	W	45.1	65.9	79.9	40.9	38.9

Table 3b: 2013 General Election, City Council

November 2013 General Election City Council (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Massu	W	22.4	32.9	42.3	44.1	37.3
Richardson	W	31.4	124.2	97.3	37.6	44.3
Shank	W	15.7	-34.6	.2	41.3	34.9
Sweeney	W	30.5	54.2	52.4	51.7	51.9

Appendix: Comparison of Estimates Derived Using Original and Updated BISG Data, Original in Parentheses

2017 City Council Elections	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Election for partial term seat (vote for 1)						
Klinefelt	W	65.0	14.6 (14.9)	22.5 (24.0)	77.3 (76.2)	74.2 (73.6)
Gladney	B	35.0	79.9 (79.3)	76.1 (75.0)	19.3 (20.2)	20.3 (20.9)
Election for two full term seats (vote for 2)						
DeMonaco, Jr.	W	30.0	5.3 (6.1)	8.2 (9.0)	67.0 (66.2)	67.2 (66.5)
Duren	B	9.9	-.9 (-.7)	1.3 (1.3)	21.9 (21.8)	23.0 (21.0)
Williams	B	19.1	34.0 (33.7)	30.3 (28.3)	34.3 (34.0)	36.9 (34.5)
Owens	B	23.1	76.6 (75.8)	84.3 (83.8)	29.8 (30.3)	27.2 (27.7)
Johnson	B	17.9	80.2 (79.9)	72.4 (71.3)	16.1 (17.2)	18.7 (19.2)

November 2015 General Election City Council (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Williams	B	20.5	88.3 (87.1)	80.0 (79.2)	19.1 (20.0)	18.7 (20.1)
Marion	W	31.8	25.0 (25.5)	33.2 (35.0)	56.9 (56.2)	54.7 (54.2)
Lucido	W	47.7	70.2 (70.6)	66.7 (66.9)	76.6 (76.8)	77.3 (78.8)

February 2015 Special Election City Council (vote for 1)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Votes		Percent of White Votes	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
DeMonaco, Jr.	W	60.2	-7.8 (-10.4)	6.7 (0.0)	80.6 (78.7)	78.7 (76.8)
Owens	B	28.5	111.9 (115.3)	95.3 (94.7)	3.0 (5.5)	7.9 (8.0)
Pinkston	B	11.3	-4.1 (-4.9)	1.8 (.1)	16.4 (15.8)	11.5 (13.9)

November 2016 General Election Macomb County Circuit Court Judge 16 th District (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe Only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Dennings	B	30.7	52.7 (52.6)	48.4 (48.0)	28.3 (28.8)	27.9 (31.7)
Velardo	W	9.8	11.3 (11.4)	11.5 (11.2)	11.4 (11.5)	11.5 (11.5)
Servitto	W	33.1	21.7 (21.8)	22.4 (22.4)	44.7 (44.3)	44.7 (44.1)
Rancilio	W	26.4	31.4 (30.9)	37.4 (37.6)	31.0 (30.7)	29.9 (29.5)

August 2016 Primary Election Macomb County Circuit Court Judge 16 th District (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe Only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Dennings	B	21.6	48.3 (48.6)	34.2 (33.6)	21.1 (21.9)	16.3 (17.2)
Velardo	W	8.4	9.6 (9.2)	10.5 (10.4)	12.1 (11.9)	8.4 (8.1)
deBaptiste-Follis	W	8.1	24.9 (25.3)	19.0 (19.5)	5.5 (6.2)	4.0 (5.4)
Servitto	W	36.2	22.6 (22.1)	18.3 (21.3)	58.0 (56.6)	40.1 (39.9)
Rancilio	W	25.8	37.9 (37.4)	30.1 (29.7)	33.8 (33.5)	25.5 (24.9)

November 2014 General Election School Board (vote for 3)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe Only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Jackson	M	31.3	39.0 (39.0)	36.5 (36.8)	43.9 (43.8)	43.8 (44.1)
DeVita	W	35.2	31.9 (32.3)	31.2 (31.8)	53.6 (53.3)	53.7 (53.1)
Borsa	W	33.5	27.1 (27.4)	27.6 (28.3)	51.6 (51.1)	51.7 (50.7)

November 2014 General Election Michigan Supreme Court-Partial term (vote for 1)	Race of Candidate	Actual Percent of Votes Received by Candidate: Eastpointe only	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Viviano	W	59.3	14.3 (14.8)	24.8 (25.6)	75.6 (74.4)	71.5 (73.3)
Thomas	B	32.4	76.4 (75.9)	61.9 (56.0)	16.9 (17.9)	18.0 (18.7)
Morgan	W	8.3	9.3 (9.5)	19.3 (6.0)	7.5 (7.7)	8.6 (5.1)

November 2015 General Election Mayor (vote for 1)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Voters		Percent of White Voters	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Massu	W	23.5	16.1 (16.8)	7.1 (7.8)	23.3 (24.1)	27.9 (27.4)
LaForest	W	31.4	18.0 (18.4)	18.4 (18.9)	35.8 (35.4)	32.6 (32.6)
Pixley	W	45.1	65.9 (64.8)	79.9 (71.8)	40.9 (40.6)	38.9 (38.5)

November 2013 General Election City Council (vote for 2)	Race of Candidate	Actual Percent of Votes Received by Candidate	Percent of Black Votes		Percent of White Votes	
			Ecological Regression	King's Ecological Inference	Ecological Regression	King's Ecological Inference
Total Ballots Cast						
Massu	W	22.4	32.9 (32.0)	42.3 (42.3)	44.1 (43.0)	37.3 (39.5)
Richardson	W	31.4	124.2 (124.1)	97.3 (97.2)	37.6 (39.3)	44.3 (45.0)
Shank	W	15.7	-34.6 (-34.3)	.2 (.2)	41.3 (40.3)	34.9 (33.9)
Sweeney	W	30.5	54.2 (54.4)	52.4 (52.6)	51.7 (51.8)	51.9 (52.7)